



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,610	02/06/2002	Roger A. Stern	39238-0747	2778
26875	7590	06/06/2006	EXAMINER	
WOOD, HERRON & EVANS, LLP 2700 CAREW TOWER 441 VINE STREET CINCINNATI, OH 45202			VRETTAKOS, PETER J	
			ART UNIT	PAPER NUMBER
			3739	

DATE MAILED: 06/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Supp 1**  
**Notice of Allowability**

Application No.

10/072,610

Examiner

Peter J. Vrettakos

Applicant(s)

STERN ET AL.

Art Unit

3739

**-- Th MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment 9-12-05.
2. ☒ The allowed claim(s) is/are 1-13, 15-19, 21-38, 40-48 and 112-122.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date see attached
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

**Continuation Sheet (PTOL-37)**

**Application No.**

IDS dates: 12-3-03,  
3-17-04,  
7-29-04,  
3-25-04,  
11-5-04,  
12-20-04,  
7-16-04,  
11-10-04,  
9-19-05

### EXAMINER'S AMENDMENT

**NOTE: This action is a duplicate to that mailed 1-18-06 to the Applicant's California address, which the Applicant requested to change to the Ohio address on 9-27-05. The Office has updated its records to now include the Applicant's Ohio address.**

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Bill Allen on 12-22-05.

The application has been amended as follows: ALL OF THE CLAIMS IN THEIR CURRENT STATUS ARE LISTED BELOW.

1. (Previously Presented) A handpiece for non-invasively treating tissue using RF energy, comprising:

a handpiece assembly including a handpiece housing; and

an electrode assembly coupled to the handpiece housing, the electrode assembly including a least one RF electrode with a dielectric portion configured to contact the tissue and a conductive portion disposed on the dielectric portion, the conductive portion further comprising a portion of a flex circuit, the RF electrode

adapted to deliver RF energy to the tissue, and the dielectric portion and the conductive portion being arranged such that the RF energy is capacitively coupled from the conductive portion for delivery into the tissue by transmission through the dielectric portion.

2. (Previously Presented) The handpiece of claim 113, further comprising:

a fluid delivery member coupled to the valve member, wherein the fluid delivery member is configured to provide an atomizing delivery of the cooling fluidic medium to the RF electrode.

3. (Original) The handpiece of claim 2, wherein the fluid delivery member is positioned in the handpiece housing.

4. (Original) The handpiece of claim 2, wherein the fluid delivery member is positioned in the electrode assembly.

5. (Original) The handpiece of claim 2, wherein the fluid delivery member includes a nozzle.

6. (Previously Presented) The handpiece of claim 2, wherein the fluid delivery member is configured to deliver a controllable amount of the cooling fluidic medium to the RF electrode.

7. (Original) The handpiece of claim 2, wherein the fluid delivery member is configured to controllably deliver the cooling fluidic medium to a back surface of the RF electrode.

8. (Currently Amended) The handpiece of claim 2, wherein the fluid delivery member is configured to controllably deliver the cooling fluidic medium to a ~~backside~~ back surface of the RF electrode to evaporatively cool the RF electrode and conductively cool a skin surface in contact with the front ~~[[side]]~~ surface of the RF electrode.

9. (Previously Presented) The handpiece of claim 2, wherein the fluid delivery member is configured to controllably deliver the cooling fluidic medium to a back surface of the RF electrode at substantially any orientation of the front surface of the RF electrode relative to a direction of gravity.

10. (Currently Amended) The handpiece of claim ~~[[1]]~~ 113, wherein the electrode assembly is sufficiently sealed to minimize flow of the cooling fluidic medium from a back surface of the RF electrode to a skin surface in contact with a front surface of the RF electrode.

11. (Original) The handpiece of claim 1, wherein the electrode assembly includes a vent.

Art Unit: 3739

12. (Previously Presented) The handpiece of claim 113, wherein the valve member is configured to provide a pulsed delivery of the cooling fluidic medium.

13. (Previously Presented) The handpiece of claim 113, wherein the valve member includes a solenoid valve.

14. (Cancelled)

15. (Previously Presented) The handpiece of claim 1, wherein the conductive portion includes metal.

16. (Previously Presented) The handpiece of claim 1, wherein the conductive portion includes copper.

17. (Currently Amended) The handpiece of claim 1, wherein the dielectric portion includes polyimide.

18. (Previously Presented) The handpiece of claim 1, wherein the RF electrode includes a copper polyimide composite material.

19. (Original) The handpiece of claim 1, further comprising:

leads coupled to the RF electrode.

20. (Cancelled)

21. (Currently Amended) The handpiece of claim [[20]] 1, wherein the flex circuit is configured to isolate flow of a cooling fluidic medium from a back surface of the RF electrode to a front surface of the RF electrode.

22. (Currently Amended) The handpiece of claim [[20]] 1, wherein the flex circuit is configured to create a reservoir for a cooling fluidic medium that gathers at a back surface of the RF electrode.

23. (Currently Amended) The handpiece of claim [[20]] 1, wherein the flex circuit includes trace components.

24. (Currently Amended) The handpiece of claim [[20]] 1, wherein the flex circuit include a force sensor coupled to the flex circuit.

25. (Currently Amended) The handpiece of claim [[20]] 1, wherein the flex circuit includes a thermal sensor.

26. (Currently Amended) The handpiece of claim [[20]] 1, wherein the flex circuit further comprises the dielectric portion.



27. (Original) The handpiece of claim 1, further comprising:

a force sensor coupled to the RF electrode.

28. (Original) The handpiece of claim 27, wherein the force sensor is configured to detect an amount of force applied by the RF electrode against a surface.

29. (Original) The handpiece of claim 27, wherein the force sensor is configured to zero out gravity effects of the weight of the electrode assembly.

30. (Original) The handpiece of claim 27, wherein the force sensor is configured to zero out gravity effects of the weight of the electrode assembly in any orientation of a front surface of the RF electrode relative to a direction of gravity.

31. (Original) The handpiece of claim 27, wherein the force sensor is configured to provide an indication of RF electrode contact with a skin surface.

32. (Original) The handpiece of claim 27, wherein the force sensor is configured to provide a signal indicating that a force applied by the RF electrode to a contacted skin surface is below a minimum threshold.

Art Unit: 3739

33. (Original) The handpiece of claim 27, wherein the force sensor is configured to provide a signal indicating that a force applied by the RF electrode to a contacted skin surface is above a maximum threshold.

34. (Original) The handpiece of claim 27, further comprising:  
a tare button coupled to the force sensor.

35. (Original) The handpiece of claim 1, wherein the RF electrode is spring loaded.

36. (Original) The handpiece of claim 35, wherein the spring is pre-loaded.

37. (Original) The handpiece of claim 35, wherein the spring is configured to bias the RF electrode in a direction toward the handpiece housing.

38. (Original) The handpiece of claim 1, further comprising:  
a shroud coupled to the handpiece.

39. (Cancelled)

40. (Currently Amended) The handpiece of claim 1, wherein the ~~RF electrode includes~~  
~~a conductive portion with a dielectric~~ portion is positioned around at least a portion of a  
periphery of the conductive portion.

41. (Currently Amended) The handpiece of claim 1, wherein the ~~RF electrode includes a conductive portion with a dielectric~~ portion is positioned around an entirety of a periphery of the conductive portion.

42. (Previously Presented) The handpiece of claim 113, wherein the electrode assembly includes a channel coupled with the valve member for delivery of the cooling fluidic medium, the channel having an inlet and an outlet.

43. (Previously Presented) The handpiece of claim 42, wherein the outlet of the channel has a smaller cross-sectional area than a cross-sectional area of the inlet.

44. (Original) The handpiece of claim 1, wherein the electrode assembly is moveable within at least a portion of the handpiece housing.

45. (Original) The handpiece of claim 1, wherein the electrode assembly is slideably moveable within at least a portion of the handpiece housing.

46. (Original) The handpiece of claim 1, wherein the electrode assembly is rotatably moveable relative to the handpiece housing.

Art Unit: 3739

47. (Original) The handpiece of claim 1, wherein the RF electrode is rotatably positioned in the electrode assembly.

48. (Original) The handpiece of claim 1, wherein the electrode assembly is coupled to the handpiece housing in a stationary position.

49-111. (Canceled)

112. (Previously Presented) The handpiece of claim 1, wherein the electrode assembly is coupled detachably to the handpiece housing.

113. (Previously Presented) The handpiece of claim 1, wherein the handpiece assembly further includes a valve member adapted to control delivery of a cooling fluidic medium that cools the electrode assembly.

114. (Previously Presented) A handpiece for non-invasively treating tissue using RF energy, comprising:

a handpiece assembly including a handpiece housing; and

an electrode assembly coupled to the handpiece housing, the electrode assembly including a thin and flexible flex circuit, the flex circuit including a dielectric layer and a conductive RF electrode layer disposed on the dielectric layer, and at least

Art Unit: 3739

a portion of the RF electrode layer being capacitively coupled to the tissue when at least a portion of the flex circuit is in contact with a skin surface.

115. (Previously Presented) The handpiece of claim 114, wherein the flex circuit is configured to isolate flow of a cooling fluidic medium from a back surface of the RF electrode to a front surface of the RF electrode.

116. (Previously Presented) The handpiece of claim 114, wherein the flex circuit is configured to create a reservoir for a cooling fluidic medium that gathers at a back surface of the RF electrode.

117. (Previously Presented) The handpiece of claim 114, wherein the flex circuit includes trace components.

118. (Previously Presented) The handpiece of claim 114, wherein the flex circuit include a force sensor coupled to the flex circuit.

119. (Previously Presented) The handpiece of claim 114, wherein the flex circuit includes a thermal sensor.

120. (Previously Presented) The handpiece of claim 114, wherein the flex circuit includes a dielectric portion that contacts the skin surface.

121. (Previously Presented) The handpiece of claim 114, wherein the handpiece assembly further includes a valve member adapted to control delivery of a cooling fluidic medium that cools the electrode assembly.

122. (Previously Presented) The handpiece of claim 114, wherein the electrode assembly is coupled detachably to the handpiece housing.

#### **END OF AMENDMENT**

Claims 1-13, 15-19, 21-38, 40-48 and 112-122 are pending.

Claims 1 and 114 are the only independent claims.

The instant application is a CIP of USPN 6,413,255.

**The following is an examiner's statement of reasons for allowance:** The prior art neglects to disclose/suggest an RF handpiece with an electrode assembly with at least one electrode with a dielectric portion and a conductive portion that comprises a portion of a *flex circuit*. The Examiner's amendment above effectively placed claim 20 (language toward a flex circuit) into claim 1, obviating any 35 USC § 102 rejections. Further, the Applicant correctly argues away the combination of Heim's electrosurgical pencil (5,707,402) and Imran's flex circuit (5,396,887) by questioning the motivation to combine (see amendment dated 9-12-05 pages 19-20). As such, the prior 35 USC §

103 rejection toward claim 20 (now claim 1) is not warranted. Therefore, independent claims 1 and 114 (and their dependents), which both include language toward a flex circuit are in condition for allowance.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter J. Vrettakos whose telephone number is 571-272-4775. The examiner can normally be reached on M-F 9-6.

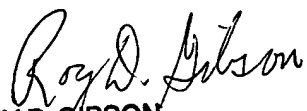
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C. Dvorak can be reached on 571-272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/072,610  
Art Unit: 3739

Page 14

Pete Vrettakos  
May 29, 2006



ROY D. GIBSON  
PRIMARY EXAMINER